



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <b>(51) International Patent Classification <sup>7</sup> :</b><br><b>B01J 35/02, 21/04</b>  | <b>A1</b> | <b>(11) International Publication Number:</b> <b>WO 00/25918</b><br><b>(43) International Publication Date:</b> 11 May 2000 (11.05.00)  |
| <b>(21) International Application Number:</b> PCT/NL99/00676<br><b>(22) International Filing Date:</b> 4 November 1999 (04.11.99)<br><b>(30) Priority Data:</b><br>98203719.4 4 November 1998 (04.11.98) EP<br><b>(71) Applicant (for all designated States except US):</b> ENGELHARD CORPORATION [US/US]; 101 Wood Avenue, Iselin, NJ 08830-0770 (US).<br><b>(72) Inventors; and</b><br><b>(75) Inventors/Applicants (for US only):</b> BAYENSE, Cornelis, Roeland [NL/NL]; Delkant 6, NL-5311 CJ Gameren (NL). YKEMA, Durk [NL/NL]; Hemelvuur 13, NL-3454 SP De Meern (NL).<br><b>(74) Agent:</b> OTTEVANGERS, S., U.; Vereenigde, Nieuwe Parklaan 97, NL-2587 BN The Hague (NL). |           | <b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).<br><br><b>Published</b><br><i>With international search report.</i> |
| <b>(54) Title:</b> STAR SHAPED ALUMINA EXTRUDATES AND CATALYST BASED THEREON  |           |   |
| <b>(57) Abstract</b><br><br>This invention is directed to star shaped alumina extrudates with a pore volume in the pores of a diameter over 1000 nm, as determined by mercury porosity, of at least 0.05 ml/g and a total pore volume between 0.5-0.75 ml/g. The extrudates have a length of between 2-8 mm, a length to diameter ratio of between 1-3, a side crushing strength of at least 50 N and a bulk crushing strength of at least 1 MPa.   |           |   |